無痛連結
Google Workspace, REST APIs（初階）

Sr. Full-Stack Engineer

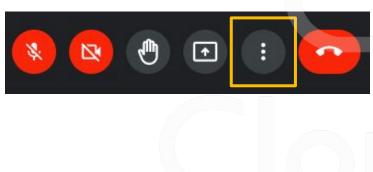Welly Zhang

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在會議中
有任何疑問時

1. 請點擊 Meet 右上角的即時「問與答」功能提出您的問題！
2. 大家可以點擊互動按讚, 我們將會優先回答按讚數較多的問題！

分組討論室
分為數個討論群組

問與答
方便使用者提問

意見調查
迅速掌握目標對象的看法

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Welly Zhang

Sr. Full-Stack Engineer

Solution Architect
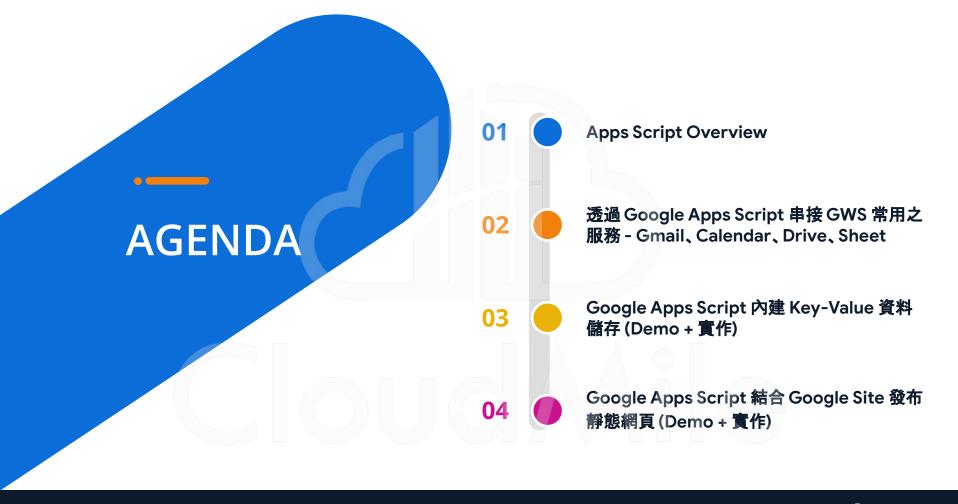
擁有 6 年以上全端工程師之經驗。
現任職 CloudMile 萬里雲開發團隊資深全端工程師，幫助多家大型企業如金融業、製造業、半導體業、零售業用戶在 CloudMile Goolgle 雲端生態圈建立雲端搬遷之解決方案、數據中台建置解決方案以及GWS 相關服務應用ex. AppSheet

Google Workspace for Developer
Google Apps Script
Google AppSheet
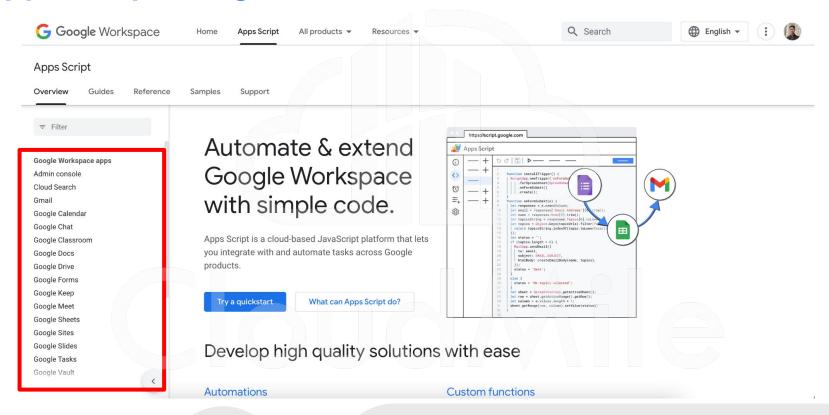# GCP Data Platform Solution
Full-Stack Development
Devops Solution

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AGENDA

01 Apps Script Overview

02 透過 Google Apps Script 串接 GWS 常用之服務 – Gmail、Calendar、Drive、Sheet

03 Google Apps Script 內建 Key-Value 資料儲存 (Demo + 實作)

04 Google Apps Script 結合 Google Site 發布靜態網頁 (Demo + 實作)

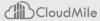# 01

Apps Script Overview

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Apps Script Usage

Google Workspace API: Overview

Connect to Google Workspace

REST APIs make it easy to programmatically interact with Google Workspace.

Manage files & sharing

Use the **Drive API** to programmatically search files, upload documents, and manage file permissions.

View documentation   Try it out

Manage Gmail settings & messages

Use the **Gmail API** to programmatically send emails, update email signatures, and manage other settings.

View documentation   Try it out

Optimize your admin work

Use the **Admin SDK** to programmatically manage new and existing users, audit activity, or get alerts about your account.

View documentation   Try it out

Manage calendars & events

Use the **Calendar API** to programmatically add or update Calendar events.

View documentation   Try it out

Connect to Google Workspace

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Product for developer overview

Admin Console

Classroom

Cloud Search

Gmail

Google Calendar

Google Chat

Google Docs

Google Drive

Google Forms

Google Keep

Google Meet

Google Sheets

Google Sites

Google Slides

Google Tasks

Google Vault

Google Workspace Marketplace

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Apps Script SDK vs Advance REST API

Developer products 🔖 ▾

Below are the development platforms, built-in extensions, and Google Workspace apps you can enhance, automate, or connect with your service.

Development platforms

🎨 Apps Script

Anyone can use our web-based, low-code environment to automate and enhance Google Workspace.

Explore Apps Script

◈ REST APIs

Advanced developers can use the Google Workspace REST APIs to interact programmatically with users' email, calendars, files, and other Google Workspace data.
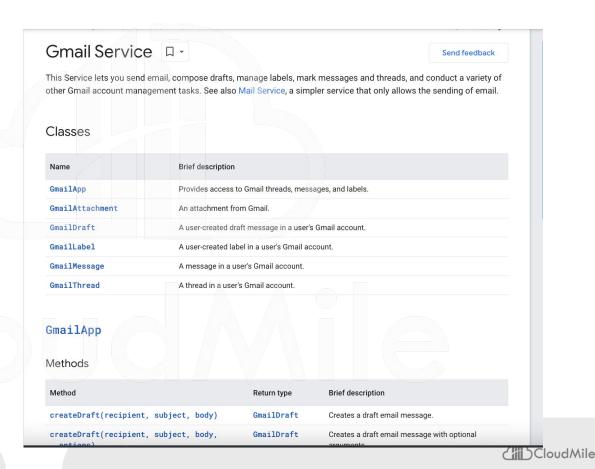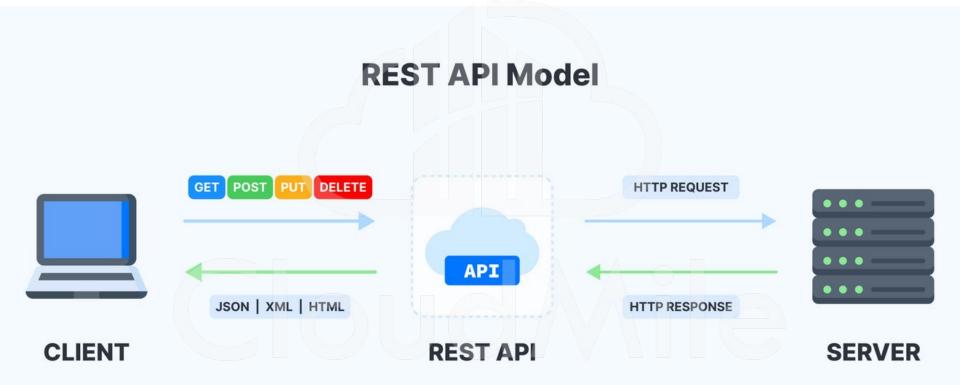
Explore Google Workspace APIs

Apps Script SDK

Class

Methods

Gmail Service

This Service lets you send email, compose drafts, manage labels, mark messages and threads, and conduct a variety of other Gmail account management tasks. See also Mail Service, a simpler service that only allows the sending of email.

Classes

Name	Brief description
GmailApp	Provides access to Gmail threads, messages, and labels.
GmailAttachment	An attachment from Gmail.
GmailDraft	A user-created draft message in a user's Gmail account.
GmailLabel	A user-created label in a user's Gmail account.
GmailMessage	A message in a user's Gmail account.
GmailThread	A thread in a user's Gmail account.

GmailApp

Methods

Method	Return type	Brief description
createDraft(recipient, subject, body)	GmailDraft	Creates a draft email message.
createDraft(recipient, subject, body, options)	GmailDraft	Creates a draft email message with optional arguments.

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RESTful API

REST API Model

GET | POST | PUT | DELETE

HTTP REQUEST

API

JSON | XML | HTML

HTTP RESPONSE

CLIENT   REST API   SERVER

HTTP methods in RESTful API development

HTTP Methods	Path	Action
GET	/products/{sku}	Read
POST	/products	Create
PUT	/products/{sku}	Update
PATCH	/products/{sku}	Partial Update
DELETE	/products/{sku}	Delete

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02

透過 Google Apps Script 串接 GWS 常用之服務 – Gmail、Calendar、Drive、Sheet

Let's go with Apps Script!

您需要先完成以下幾件事：
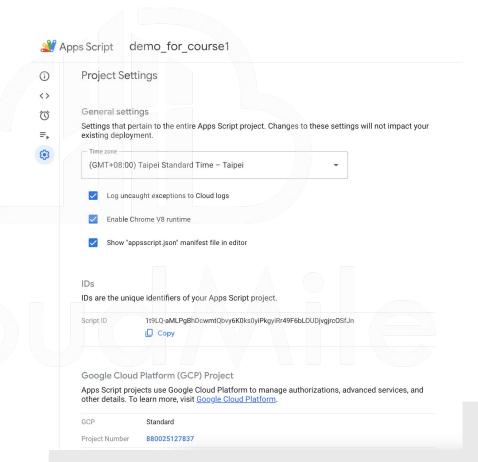
1. A Google Account（登入您的 Google 帳戶）
    (Google Workspace accounts might require administrator approval)
2. A web browser with access to the internet（已連上網路的網頁頁面）
3. 開啟「Apps Script」頁面
    https://script.google.com/home
4. 開啟「練習用程式碼」文件
    https://docs.google.com/document/d/1KXkg2VVvQEyPfqxrMs_52L_4k5p
    6aJO5uSiqUi3CUk0/edit#heading=h.7olisr20baqi
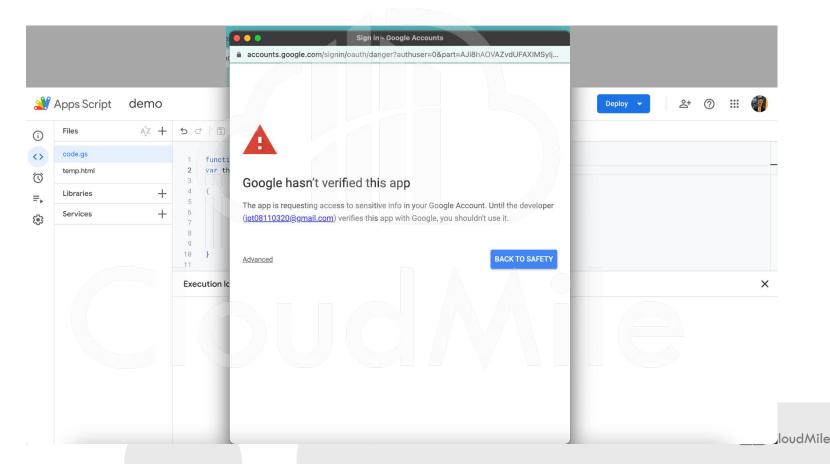
Apps Script 在開發前有哪些注意事項？

1. **Apps Script IDE**

2. **Trigger**

3. **Deploy**

4. **Log**

5. **Project Setting**

6. **OAuth Setting**
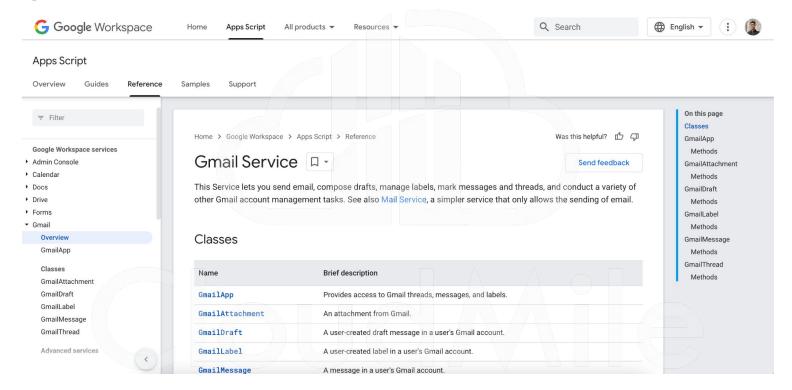
執行時是否有出現這個畫面？
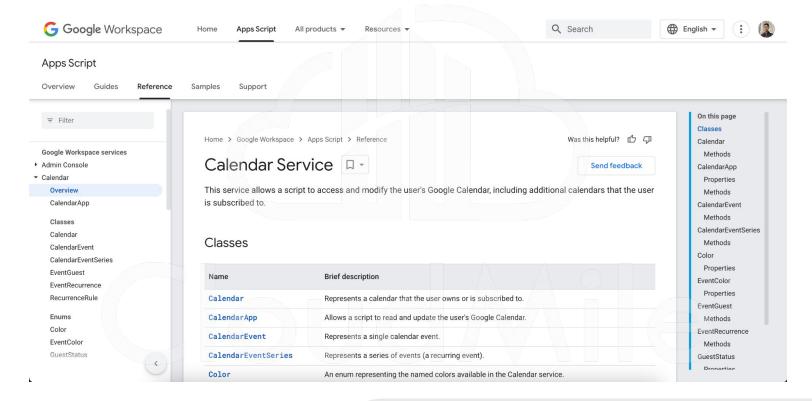
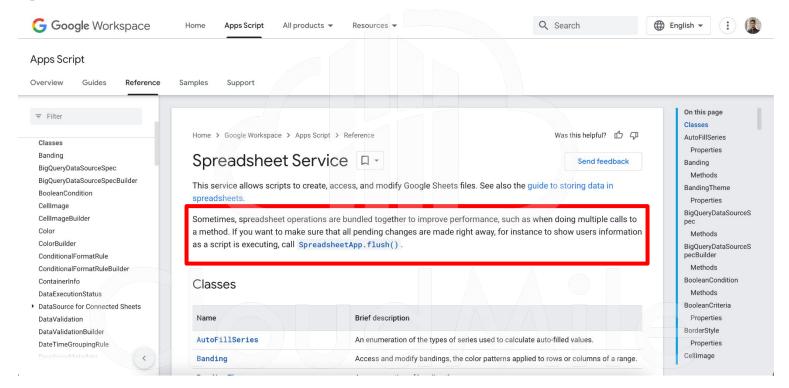# Google Workspace: Gmail SDK
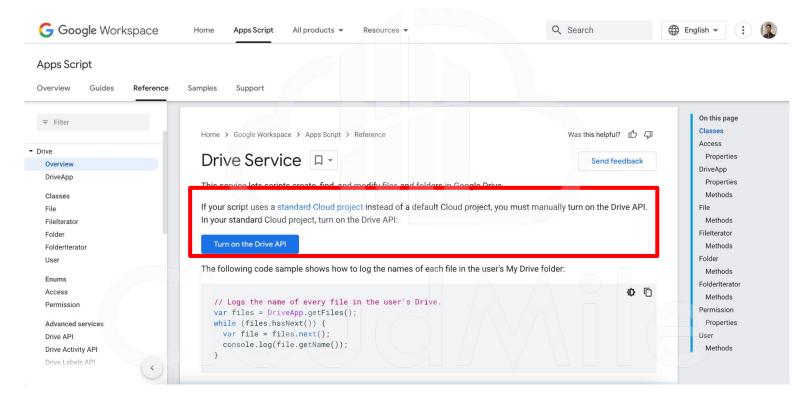
Google Workspace: Calander SDK

Google Workspace: Drive SDK
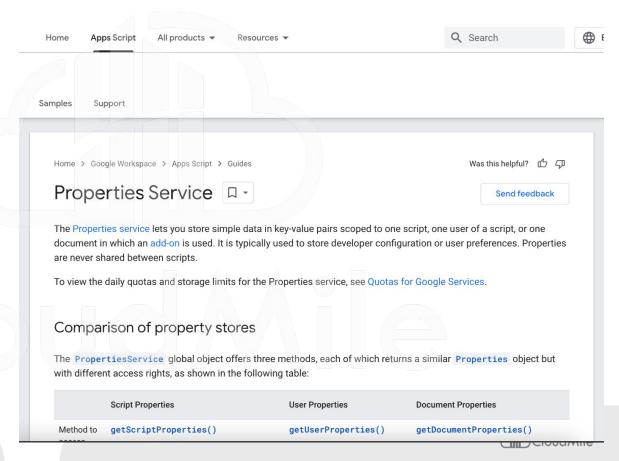
Google Workspace: Sheet SDK

03

**Google Apps Script 內建
Key-Value 資料儲存 (Demo + 實作)**

Apps Script 有哪些可以儲存資料的方法?

1. **Properties**

2. **External Database**

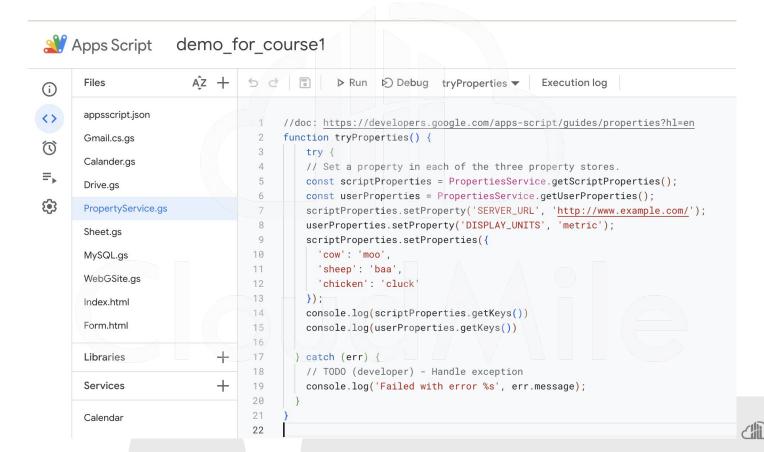3. Content Service

Properties

Comparison of property stores

The `PropertiesService` global object offers three methods, each of which returns a similar `Properties` object but with different access rights, as shown in the following table:
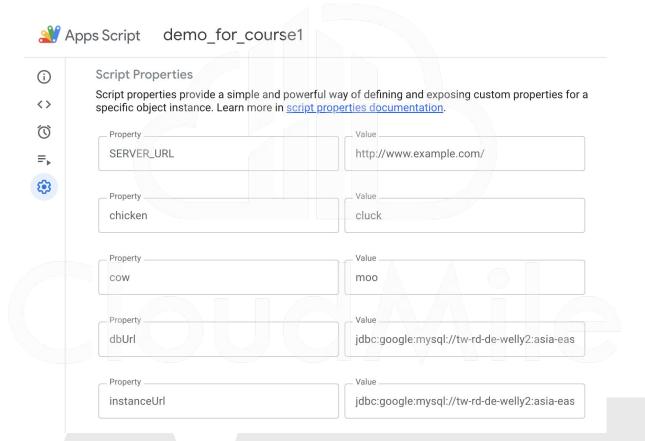
	Script Properties	User Properties	Document Properties
Method to access	`getScriptProperties()`	`getUserProperties()`	`getDocumentProperties()`
Data shared among	All users of a script, add-on, or web app	The current user of a script, add-on, or web app	All users of an add-on in the open document
Typically used for	App-wide configuration data, like the username and password for the developer's external database	User-specific settings, like metric or imperial units	Document-specific data, like the source URL for an embedded chart

Let's try PropertiesService (Key-Value)


```
//doc: https://developers.google.com/apps-script/guides/properties?hl=en
function tryProperties() {
  try {
    // Set a property in each of the three property stores.
    const scriptProperties = PropertiesService.getScriptProperties();
    const userProperties = PropertiesService.getUserProperties();
    scriptProperties.setProperty('SERVER_URL', 'http://www.example.com/');
    userProperties.setProperty('DISPLAY_UNITS', 'metric');
    scriptProperties.setProperties({
      'cow': 'moo',
      'sheep': 'baa',
      'chicken': 'cluck'
    });
    console.log(scriptProperties.getKeys())
    console.log(userProperties.getKeys())

  } catch (err) {
    // TODO (developer) - Handle exception
    console.log('Failed with error %s', err.message);
  }
}
```

Apps Script — demo_for_course1

Files: appsscript.json, Gmail.cs.gs, Calander.gs, Drive.gs, PropertyService.gs, Sheet.gs, MySQL.gs, WebGSite.gs, Index.html, Form.html, Libraries, Services, Calendar

Let's try PropertiesService (Key-Value)

🌀 **Apps Script**   demo_for_course1

Script Properties

Script properties provide a simple and powerful way of defining and exposing custom properties for a specific object instance. Learn more in script properties documentation.

Property	Value
SERVER_URL	http://www.example.com/
chicken	cluck
cow	moo
dbUrl	jdbc:google:mysql://tw-rd-de-welly2:asia-eas
instanceUrl	jdbc:google:mysql://tw-rd-de-welly2:asia-eas

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04

Google Apps Script 結合 Google Site 發布靜態網頁 (Demo + 實作)

網頁三兄弟

Apps Script IDE 建立 HTML
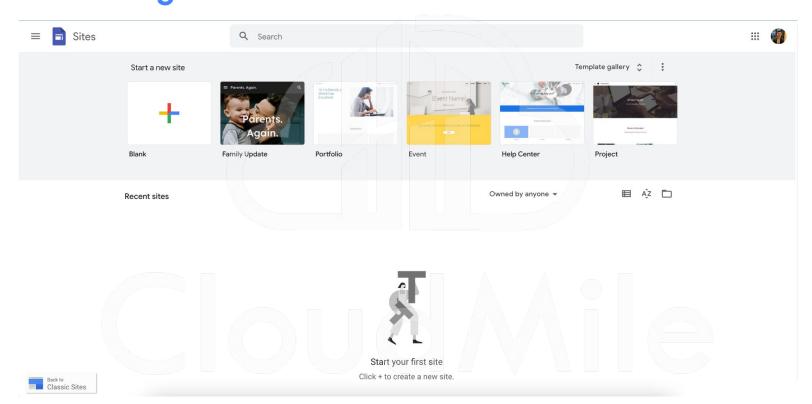
What we should do for the WebApp?

1. **Create a script file (must have doGet or doPost function)**

2. **Create a html file**

3. **Test your deployment**
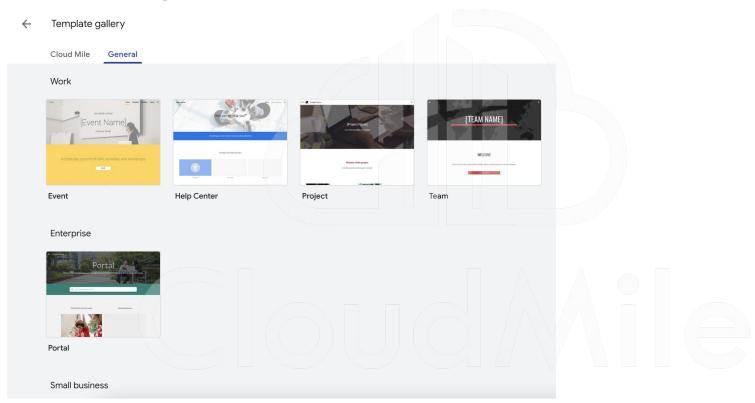
What is Google Sites?

Template gallery

Cloud Mile   **General**

Work

Event

Help Center

Project

Team

Enterprise

Portal

Small business
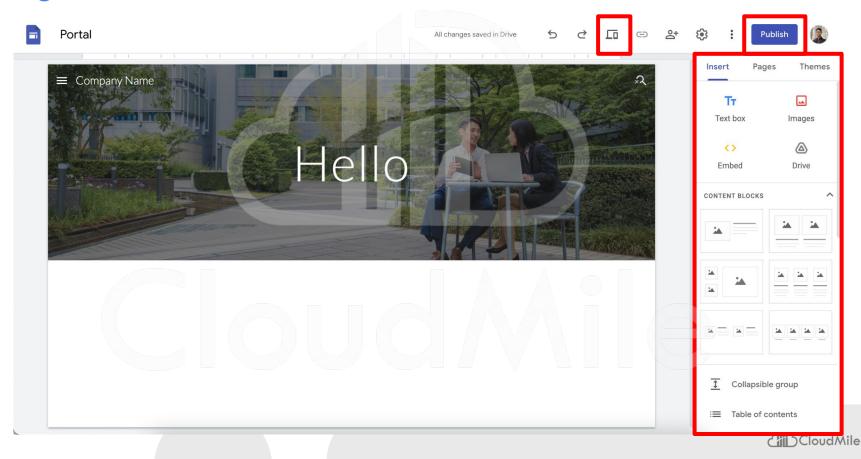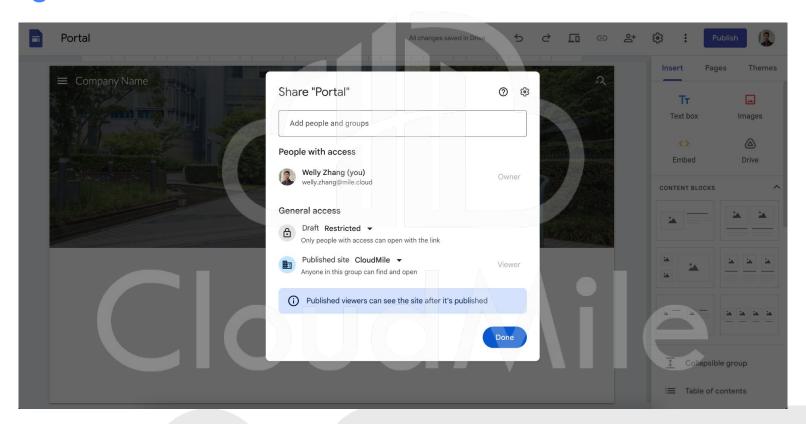
Google Sites Overview

Google Sites Permission
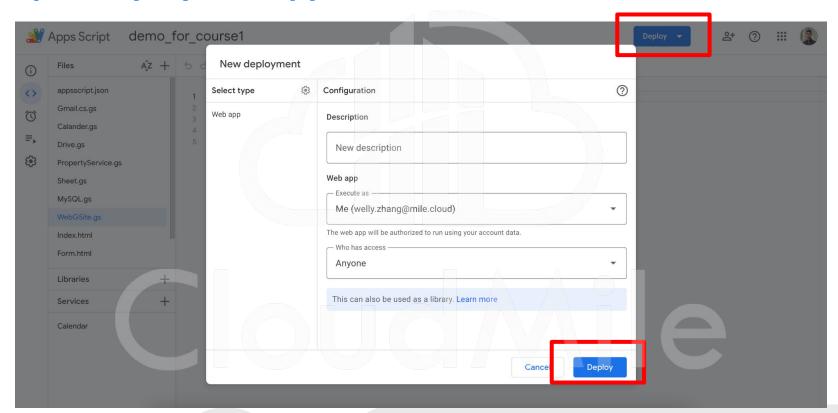
Apps Script WebApp + Google Sites = Publish Website
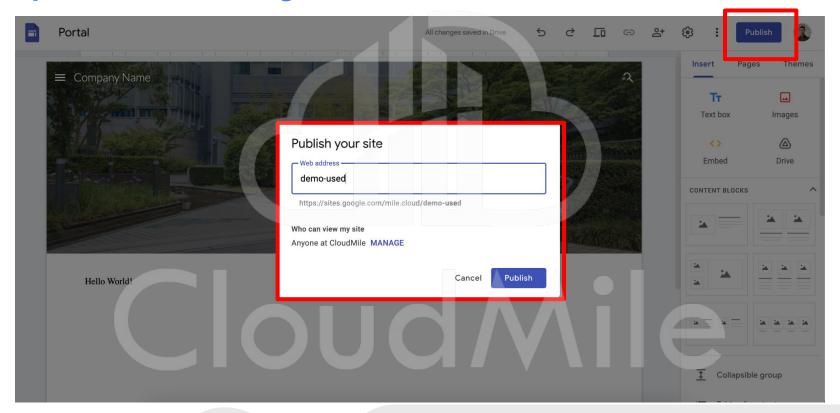
Step1 : Deploy webapp

Step1 : Deploy webapp
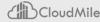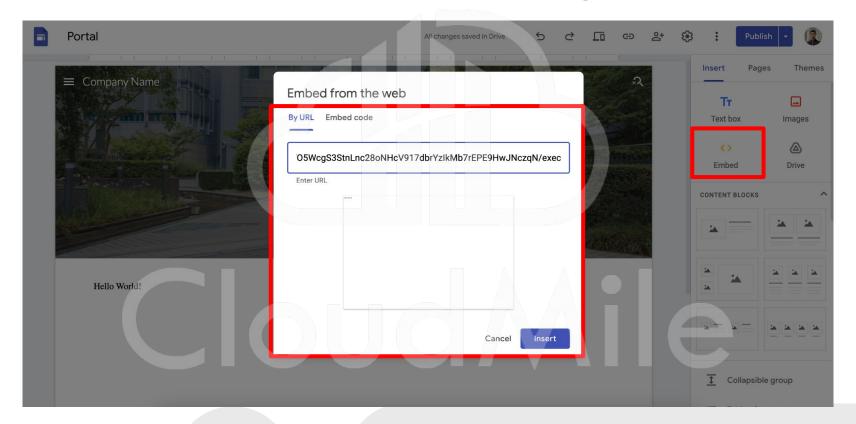
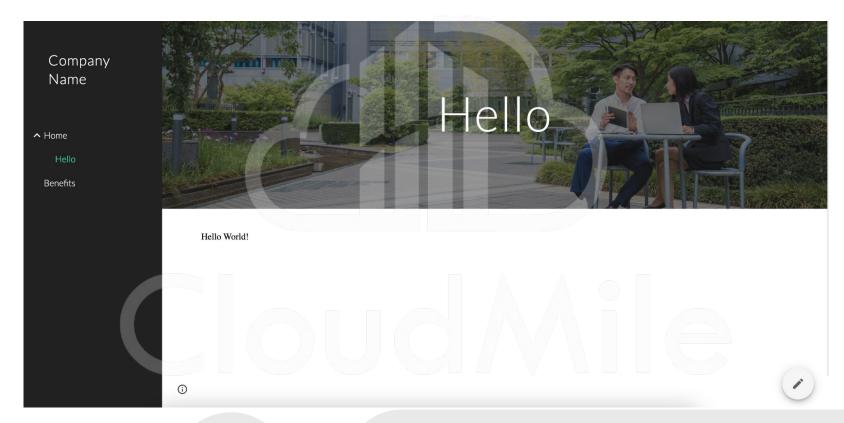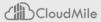# Step2 : Use embedded function in Google Sites

Step3 : Publish Google Sites!

Done !

05

總結：How Google App Script
can help?

How Google App Script Can Help?

- **怎麼樣使用 AppScript 內建 SDK 及 REST API 資源**
  - 瞭解如何使用自動化方式玩轉 Google Workspace
- **體驗 Google low code / no code 的產品**
  - Google App Script
  - 未來可以嘗試 Google Cloud 的其他產品
- **一次編譯、隨處使用**
  - 透過 App Script 在熟悉的 GWS 產品上增加工作效率

Thank You!

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